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Purpose of this Guide

This guide describes how to configure Pulse Policy Secure (PPS) to provide identity-based admission control using Check Point Next-Generation Firewall.

Prerequisites

This guide assumes you are familiar with the use of the following products and their related terminology.

- Pulse Policy Secure at version 9.1R4
- Check Point Next-Generation Firewall at version R80.10.
Identity-Based Access Control with Check Point

This section describes how to integrate Check Point Next Generation Firewall with PPS to support Identity-based admission control in your network.

Overview: Deploying PPS with Check Point Next-Generation Firewall

This section describes the integration of PPS with Check Point Next-Generation Firewall. The Check Point Next-Generation Firewall controls the access to protected resources (for example, internet, CRM systems, Wikis and so on.) based on policy settings that defines the access. The Check Point Next-Generation Firewall enables integration with directory sources (For example, AD or LDAP) to get user and group information. The policies are then defined based on user role information.

PPS serves as the provider of identity information (For example, user-ID, IP address, and roles) for Check Point Next-Generation Firewall. The Check Point Next-Generation Firewall uses the identity information provided by the PPS for deciding the resource access.

Figure 1: Integrating Check Point with PPS

The authentication process is described below:

1) The endpoints connect to Switch/WLAN and performs the layer 2 authentication with PPS.
2) PPS performs the layer 3 authentication and performs compliance check on the endpoint and detects for any unauthorized behavior. PPS can also learn endpoint IP address using accounting and provision mapping.
3) PPS provisions the auth table entries (user-ID, IP address, and roles) on the Check Point Next-Generation Firewall.
4) The user role changes, which includes any unauthorized behavior are dynamically updated on the Next-Generation Firewall. PPS provisions the auth table with changes in role information if any on Check Point Next-Generation Firewall. The access is based on roles.
5) The Check Point Next-Generation Firewall applies policies to allow or block user access to protected resources.
in a Large Enterprise

For an enterprise with remote branch offices connected to the headquarters with VPN, deploy the Security Gateway at the remote branch offices. When you enable Identity Awareness on the branch office Security Gateway, users are authenticated before they reach internal resources. The identity data on the branch office Security Gateway is shared with other Security Gateways to avoid unnecessary authentication.

Figure 2: Integrating Check Point with PPS for a Large Enterprise
Summary of Configuration

To prepare your network to perform identity-based admission control using Pulse Policy Secure and Check Point Next-Generation Firewall, perform the following tasks:

- Configuring PPS with Check Point Next-Generation Firewall
- Configuring Check Point Infranet Enforcer in PPS
- Configuring Auth Table Mapping Policies
- Configuring Check Point Next-Generation Firewall
- Configuring Identity Awareness

Configuring PPS with Check Point Next-Generation Firewall

The PPS configuration requires adding Check Point Next-Generation Firewall as an Infranet Enforcer and creating the auth table mapping policy.

This section covers the following topics:

- Configuring Check Point Infranet Enforcer in PPS
- Configuring Auth Table Mapping Policies

Configuring Check Point Infranet Enforcer in PPS

The PPS configuration requires defining a new Check Point Next-Generation Firewall Infranet Enforcer instance on PPS and then fetching the pre-configured shared secret key from the Next-Generation Firewall. The shared secret key is used to communicate between the Check Point Next-Generation Firewall and PPS. The standard user authentication / authorization configurations such as Auth Table Mapping Policies should also be created and associated with the required roles.

To configure a Check Point Next-Generation Firewall Infranet Enforcer in PPS:

1) Select Endpoint Policy > Infranet Enforcer.

2) Click New Infranet Enforcer and select Check Point Firewall in the Platform drop down.
3) Enter the **Name** and **IP Address** of the *Check Point Next-Generation Firewall* and enter the shared secret between PPS and *Check Point Next-Generation Firewall*.

**Note:** PPS has the default server URL for Check Point R80.10. You can edit/modify the server URL as per your requirement. For Check Point version (R77.30), edit the server URL manually to `https://<IP_Address>/_IA_MU_Agent/idasdk`.

Figure 4: Check Point Next-Generation Firewall

4) (Optional) Select **Server Certificate Validation** to verify the Next-Generation Firewall certificate.

5) Click **Save Changes**.
## Configuring Auth Table Mapping Policies

An auth table entry consists of the user's name, a set of roles, and the IP address of the user device. An auth table mapping policy specifies which enforcer device (Next-Generation Firewall) can be used for each user role. These policies prevent the PPS from creating unnecessary auth table entries on all connected enforcer devices.

PPS's default configuration includes only one default auth table mapping policy. When the default auth table mapping policy is enabled, PPS pushes one auth table entry for each authenticated user to the selected Check Point Next-Generation Firewall configured as Infranet Enforcers in PPS.

To configure an auth table mapping policy:

1. Select **Endpoint Policy > Infranet Enforcer > Auth Table Mapping** and click **New Policy**.

   ![Figure 5: Check Point Next-Generation Firewall Configuration](image)

   **Figure 5: Check Point Next-Generation Firewall Configuration**

2. On the **New Policy** page:
   a) For **Name**, enter a name to label the auth table mapping policy.
   b) (Optional) For **Description**, enter a description.
c) In the **Enforcer** section, specify the Infranet Enforcer firewall(s) to which you want to apply the auth table mapping policy.

d) In the **Roles** section, specify:
   - *Policy applies to ALL roles*: Select this option to apply the auth table mapping policy to all users.
   - *Policy applies to SELECTED roles*: Select this option to apply the auth table mapping policy only to users who are mapped to roles in the **Selected** roles list. You can add roles to this list from the available roles list.
   - *Policy applies to all roles OTHER THAN those selected below*: Select this option to apply the auth table mapping policy to all users except for those who map to the roles in the **Selected** roles list. You can add roles to this list from the available roles list.

e) In the **Action** section, specify auth table mapping rules for the specified Infranet Enforcer.
   - *Always Provision Auth Table*: Select this option to automatically provision auth table entries for chosen roles on the specified Infranet Enforcer.
   - *Provision Auth Table as Needed*: Select this option to provision auth table entries only when a user with a chosen role attempts to access a resource behind the specified Infranet Enforcer. This option is greyed out for Check Point Next-Generation Firewall Enforcers since it is not supported.
   - *Never Provision Auth Table*: Select this option to prevent chosen roles from accessing resources behind the specified Infranet Enforcer.

3) You must delete the default policy if you configure any custom auth table mapping policies. The default configuration includes this default auth table mapping policy that allows all source IP endpoints to use all Infranet Enforcers.

4) Click **Save Changes**.

*Figure 6: Enforcer Status*
Configuring Check Point Next-Generation Firewall

*Check Point Next-Generation Firewall* detects traffic from an endpoint that matches a configured security policy using the access roles. It determines the role(s) associated with that user, and allows or denies the traffic based on the actions configured in the security policy.

The network interfaces are configured on the Check Point Next-Generation firewall and the remaining configurations are done on the Check Point Smart Console.

*Figure 7: Check Point R80.10*

Configuring Identity Awareness using Smart Console

The Identity Awareness lets you easily configure network access and auditing based on network location, identity of user, and identity of the device. When Identity Awareness identifies a source or destination, it shows the IP address of the user or computer with a name. For example, this lets you create firewall rules with any of these properties. You can define a firewall rule for specific users when they send traffic from specific computers or a firewall rule for a specific user regardless of which computer they send traffic from.

To enable Identity awareness:

1. Login to the Check Point SmartConsole.
2. From the *Security & Gateways* view, double-click the Security Gateway on which to enable identity awareness.
3) Create an object for PPS. Select Objects > New Host and enter the PPS IP address. Under Servers, enable Web Server and click OK.

Figure 8: Host

4) Select Gateways & Servers > Identity Awareness and enable the following options:
   a) Terminal Servers- Note down the pre-shared secret key.
   b) Identity Web API- Click Settings and add the PPS device as Authorised Clients.

Figure 9: Identity Awareness
5) Click **Install Policy**

6) From the Object Explorer create an object for Identity matching by creating user roles. Select **Objects > Object Explorer** and Click **New > Users > Access Role**

*Figure 10: Creating Access Roles*

7) From the Smart Console create a security policy by keeping the Access Role in Source column. Select **Security Policies > Access Control > Policy** and then configure the required policies. For example:
• **Full_Access role** policy allows traffic from Client with *Full_Access role*

• **Limited_Access role** policy denies traffic from Client with *Limited_Access role*

**NOTE:** The *Full_Access role* is on the top of the list as it should be considered first. The role names must match with the Role names created on PPS.

Figure 11: Security Policy based on Access Roles

8) Click **Install Policy**.

**Troubleshooting**

You can use the following CLI commands (Expert Mode) on the *Check Point Next-Generation Firewall* for troubleshooting:

```
pdp monitor all
```

This displays the table of user identities mapped to IP addresses.

**Unsupported Features**

The following features are not supported:

• IP Address Pools.

• IPsec Enforcement.

• IDP Sensors.

• Virtual Systems (VSYs).

• Enforcement for endpoints behind Network Address Translation (NAT).

• Resource access policies. The administrator should configure all firewall policies on the firewall through Check Point *SmartConsole*. 
Alert-Based Admission Control with Check Point

This section describes how to integrate Check Point Next Generation Firewall with PPS to support Alert-based admission control in your network.

Configuring Pulse Policy Secure

This section describes the integration of PPS with Check Point Next Generation firewall. PPS integrates with Check Point's syslog notification mechanism to receive the threat alert information from Check Point and takes an action based on the admin configured policies.

To view and add the admission control templates:

1) Select **Endpoint Policy > Admission Control > Templates.**

   *Figure 12: Check Point Template*

2) Select **Endpoint Policy > Admission Control > Clients**, choose **Check Point Software Technologies Ltd-Firewall-Syslog-text** as template during the template creation.

   *Figure 13: Client*
3) Select the new template during policy creation (Endpoint Policy > Admission Control > Policies). Events and severities are populated based on the template.
Figure 15: Policy

![Policy Configuration Image]

- **Name**: 
- **Template**: Check Point Software Technol

<table>
<thead>
<tr>
<th>Template name</th>
<th>Vendor</th>
<th>Device</th>
<th>Protocol</th>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>checkpointfw-syslog.tmpl</td>
<td>Check Point Software Technologies Ltd.</td>
<td>Firewall</td>
<td>Syslog</td>
<td>text</td>
<td>Syslog integration with Check Point firewall using syslog format messages.</td>
</tr>
</tbody>
</table>

- **Rule on receiving**
  - **Events**:
    - Anti-Malware
    - New Anti Virus
    - Anti Virus
    - Threat Emulation
    - URL Filtering
    - IPS
    - IPS-1
    - SmartDefense
    - MTA
    - Anti-Spam and Email Security
    - Threat Extraction
    - Any

- **Count these many times**:
  - **Count**:

- **then perform this action**:

- **Roles**
  - Policy applies to ALL roles
  - Policy applies to SELECTED roles
  - Policy applies to all roles OTHER THAN those selected below

<table>
<thead>
<tr>
<th>Available roles</th>
<th>Selected roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guest</td>
<td></td>
</tr>
<tr>
<td>Guest Admin</td>
<td></td>
</tr>
<tr>
<td>Guest Sponsor</td>
<td></td>
</tr>
<tr>
<td>Guest Wired Restrictec</td>
<td>(none)</td>
</tr>
<tr>
<td>Users</td>
<td></td>
</tr>
</tbody>
</table>

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Configuring Check Point Firewall

The PPS device must be added as a syslog server while configuring the Check Point firewall for sending the logging information. You must add Check Point firewall as syslog client on PPS.

Sample Syslog:

```bash
cp_log_export add name <name> [domain-server <domain-server>] target-server <target-server IP address> target-port <target-port> protocol <(udp|tcp)> format <(syslog)|(cef)|(splunk)(generic)> [optional arguments]
```

Example:

```bash
cp_log_export add name pulse target-server 10.0.1.9 target-port 514 protocol udp format syslog
```

```bash
cp_log_export set name <name> filter-blade-in "value2"
```

One predefined family for "product" field (filter-blade-in):


Example:

```bash
cp_log_export set name pulse filter-blade-in "TP"
```
For exporting Check Point logs over syslog, see Log Exporter.

**Troubleshooting**

To verify the event logs on PPS, select **System > Log/Monitoring > Events**. Ensure Admission control events option is enabled in Event logs settings.

You can verify that the event logs are generated every time when an event is received from Check Point.

*Figure 17: Events*

To verify the user access logs, select **System > Logs & Monitoring > User Access** to verify the user login related logs.

*Figure 18: User Access Logs*